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ABSTRACT

The need for experts in technical communication is growing significantly while the number of college graduates in the field accounts for less than one percent of the need. Three major types of problems should be considered in trying to establish a technical communication program: those involving society's need for better technical communicators, such as the enormously growing demand for students with a strong background in writing and in science and some background in technology; those involving the business community specifically, such as inadequate funding to provide training; and those involving the academic community specifically, such as departmental protectiveness or parochialism, the appropriate place in the curriculum for a technical communication course, flexibility to allow students to transfer from a different major to technical communication, and possible difficulty of approval by the state legislature. The enormous demand by society for trained persons and the high entry-level salaries make it desirable to establish such programs where possible. (TJ)

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AN INTERDISCIPLINARY PROGRAM IN TECHNICAL COMMUNICATIONS: PROBLEMS ENCOUNTERED

Three major types of problems will be encountered by colleges and universities who attempt to establish a program in technical communications. The information in this report is based on my experience in a four-year state-supported university. I'll assume that most readers will be coming from an approximately similar background. Thus, when I speak of an interdisciplinary program, I'll be referring not only to an inter-departmental but also to an "inter-collegial" program. With that understanding, let me say that the three major types of problems are:

(1) Those involving society's need for better technical communication;

(2) Those involving the business community specifically, and

(3) Those involving the academic community specifically.

Technical communications in society.

A 1976 study by DHEW's Policy Research Committee (a) indicated that, by 1975, we had graduated almost two percent more college graduates than were needed by the professional-technical portion of total civilian employment. If U.S. Department of Labor projections are anywhere near accurate, by 1985 we will have graduated between five to six and one-half

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percent more college graduates than the professional-technical portion of the labor force can absorb.

As most of us know, however, such projections are skewed widely, depending upon the type of degree program our graduates select. Graduates with a traditional English degree are in vast over-supply, but graduates in engineering, technology, and accounting are still considered highly desirable. One area where English graduates can still find employment, however, is in communications--especially in corporate departments or divisions concerned with technical publications.

Industrial communications classified as "technical" range from operating manuals, safety guides, and consumer-use pamphlets to major proposals for federal research and development. They may be classified research reports in medicine, physics, or transportation--or a variety of feasibility and progress reports within industrial, governmental, and military agencies. Science is no longer a universal language. Thus, writers in industry now must translate or perhaps "interpret" the findings of the mathematician, computer analyst, or microbiologist into the language of the administrator, the legislator, the factory foreman, and the homeowner.

Regardless of how technical communication is defined or what kind of degree program the student completes, the technical writer or communicator must have a strong background in writing, AND a strong background in science, AND at least a minimal knowledge of the technology when science is transferred into practical applications. Obviously, very few students will have either the time or the talent to complete a strong college program in all three of these areas. Yet, business and industry are recruiting nationally for just exactly such graduates.

Here are a few figures which will illustrate the need and career potential for such graduates:

Western Electric alone employs over 1,000 technical communicators in its publications center at Salem, North Carolina.

The 1978 College Placement Annual listed 24 corporations and government agencies recruiting for general writers and editors, plus 32 corporations and agencies recruiting for technical writers, specifically.

The most recent survey identified by the Society for Technical Communicators showed a demand for 3,000 graduates annually in technical communication--and only 47 graduates annually around the nation with technical communication degrees.

A survey by Sunstrand indicated that 141 technical communicators would be needed in Rockford, Illinois alone during the years 1976 through 1981. Sunstrand itself, by the way, maintains over 150 technical communication personnel.

We could examine society's need for technical communicators at greater length, but let us sum up society's problems with some statements from the February, 1978 Futurist:

> The Office of Technology Assessment for the U. S. Congress tell us that 55 percent of the work force is now in the information business (b) --as distinguished from the business of manufacturing consumer products.
>
> The general counsel for the Communications Subcommittee of the Interstate & Foreign Commerce Committee (U.S. House of Representatives) noted one month ago that Microprocessors--"mini-computers," if you will--have gone through five generations in the past seven years. The rapidity of growth in communications technology is astounding, and most of us in the academic community have been unaware of it (c).

In a small book, The Changing Information Environment, John McHale from the University of Houston points out that:

(1) Our physical resources place fewer limits on the production of goods, because our growing knowledge--and communication of that knowledge--gives us improved abilities to substitute common materials for scarce ones--and to find "hidden" supplies through recycling.

(2) The value of commodities is tied more today to their usefulness and less to their physical substance, for example: books now are more likely to be valued for their contents than for their paper or bindings.

(3) Service and knowledge-oriented agencies are now the core activities in society--indicating that information and communications are absorbing our energy, lifetimes, and finances--rather than the production or manufacture of consumer goods (d).

All these facts were forecast in the U.S. Occupational Outlook Handbook as early as 1970-71, when the USDL noted that the major areas of career opportunity in the future would be in the "service" industries: social services, psychological services, computer services, health services, counseling services--all of which depend on communications. It should be no surprise, then, to find a growing need for communication skills in the market place. Society's problems should convince us that, nationally, technical writing programs are more and more crucial in university/college curricula.

Business, Industry, and Government.

Briefly, the problem with business and industry is that they have not put their monies where their mouths are. In Northwest Ohio, we have found many corporations who have co-op internship programs for students in accounting, electronics, and automotive technology, etc. We have not found ONE so far which will establish an annual co-op program for technical writing students. Such co-op programs are crucial to the development of good students in technical communication and must be built into any academic program.

We at Bowling Green are working through our Alumni Office, trying to locate our graduates in business and industry who have management positions --and who are concerned with the need for better technical communications. I recommend that you, also, work closely with your college alumni organization. You will need the blessing and financial support of your industrial community in order for your academic program to be successful.

The academic community.

The academic community will present problems chiefly concerned with parochial or departmental protectiveness. All departments in all colleges may agree publicly with the notion of an intercollegial or interdepartmental communications program. When it gets down to the nitty-gritty, though, you may find barriers you had not anticipated. We are all familiar with the academic liberal who becomes a snarling reactionary when his personal turf is endangered.

For example, your technical writing degree-program would be stengthened if it included courses in management and marketing. If your tech communication students enroll in such courses, however, they may be denied admission because they are not business administration majors.

Another example: the one discipline which could probably open more career doors than any other for your technical communication students is computer science. If your program drops the traditional foreign language requirement, however, and substitutes computer languages instead, you may incur the wrath of all your colleagues who teach French, Spanish, German, and Russian, etc.

One helpful tip in this regard: if a student has a good background in technical communication PLUS a major or minor in foreign languages, he or she should be in demand as a technical translator. At the last time I checked, technical translators were being paid $40 per page on the East Coast--and that's a pretty good salary in anybody's book.

But to an interdepartmental degree program:

Your core of traditional science and writing courses will probably be located in your College of Liberal Arts; the science, mathematics,

and English composition courses. Additional courses in editing, layout, and publications skills may very well be located in the College of Business Administration--depending on where your School of Journalism is housed. Courses in engineering or technology will probably be in separate colleges, with degree requirements all their own. At my university, journalism is located in the College of Business; electronic and automotive technology in the College of Education; and the science and composition courses are in the College of Arts & Sciences.

Now all of us are aware that the first two years of any student's education is pretty much the same in all colleges. Beginning in the late sophomore and early junior years, though, courses and degree requirements become highly specialized. Let me recommend that you examine the degree requirements in your various colleges in detail. Check to make sure that you know all the degree requirements, and that you design a program flexible enough to accommodate students from any of the colleges on your campus.

Not many students will come to college with the idea that they will become technical writers. A good many become disillusioned with science and technology by the end of their sophomore years, however, and will want to transfer into a communications program during their junior or senior years. Your program must be flexible enough to allow a student to graduate with a major in technical communications and with a minor in one of the sciences, computer science, some area of technology, or one of the foreign languages--regardless of the original major declared.

Here are some suggested courses for your programs:

Technical writing (in the senior year)
Basic news reporting
Magazine editing, copyfitting & layout
Communication theory (usually in the departments of speech or psychology)
Advertising, marketing, and/or management
Audio-visual courses/photography
Technical courses in printing
Art courses in design
Computer science
Philosophy of science/Logic
Typing (believe it or not)

Another academic problem to be faced is this one: in what college do you want your degree program housed? If your technology courses are located in the College of Education, as ours are at Bowling Green, a degree program might run into requirements for teacher-certification. The College of Business would appear to be a good home for a program in technical communication. But students would have real difficulty in completing business requirements--economics, management, accounting, etc.--in addition to science, technology, and communication courses.

Actually you will find, I believe, that the College of Liberal Arts will be the most sensible home for a tech communications degree program. Three surveys of industry (e) have revealed that the technical communication professional is likely to be humanities-oriented. Approximately 70 to 72 percent of practicing tech writers today have degrees in the humanities.

The next problem you may encounter will involve possible approval of your degree proposal at the state level. I don't know how many states are involved in this sort of thing, but Ohio is trying not to duplicate degree programs. We in Ohio mush check the offerings of all state-supported colleges and universities to make sure we don't duplicate programs (at other institutions) with any new program we introduce on our campus.

Suppose you've solved all these problems: you have approval for a degree program located in the College of Arts and Sciences.

Your last problem will be that of finding qualified staff members to teach your technical writing courses and to develop the new program. I personally am highly skeptical of teaching staff who have never actually done any technical writing or editing for business or industry. Too often these days, young academics propose to teach technical writing after having sat through, perhaps, a summer seminar or one course in the subject. [In this regard, you will find English Department colleagues who think that technical writing is no more than a souped-up sophomore composition course in expository writing.] Look for resumes which indicate practical experience in writing or editing for business or government. Your staff members must be highly qualified and sincerely dedicated to the goals of technical communication.

Sooner or later, you will have to play the numbers game. We're all in it. We all know how it operates: the program or course which draws increasing bodies in its enrollments is the program or course which receives the funding. Your department probably will be highly supportive if you begin increasing enrollments in writing courses, but you will find less and less support from areas in which enrollments are declining.

* * * * *

So far, you've read about nothing but problems. Let us conclude by summarizing the bad things, and then look at some of the good things:

Developing a technical communications program is no easy task. Despite society's increasing needs for better communications, you will encounter problems of funding in the business community. There will be problems in the academic community, also, involving course selections, inter-collegial competition for enrollments, and staffing. You may even encounter problems within your state, involving competition between universities.

But now for the good things:

Your rewards will be worth all the headaches. Your highest sense of achievement will come from your students, who actually get good jobs on the strength of your technical writing courses and your technical communications program. The jobs ARE there. To repeat: an estimated 3000 technical communications positions are available annually, and there are barely enough 4-year degree students to fill one percent of the positions. Recruiters will call you to offer jobs to your students--when companies learn that you have a strong technical communications program at your school.

A beginning salary of $12 to $14,000 is about average for master's degree graduates who enter technical communications. On the West Coast, $15-$16,000 is appropriate. Bachelor's-degree graduates start at only a little less. These are positions with much better entry-level pay than most of our M.A. and Ph.D. candidates can find in academe--certainly an inducement for students to consider working in industry and government.

Your only temptation will be this: the temptation to leave teaching and enter technical communications yourself. For the sake of all of us in the field, wait until your program is well established at your college or university. We need all the programs in technical communication we can get.

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